What is claimed is:

1. A method of polishing a work surface having protrusions and depressions thereon with slurry containing particles, comprising the steps of:

forming aggregation trace within said depression by collecting said particles of said slurry with irradiating laser light to said depression existed adjacent to or in the vicinity of said protrusion where a selectively larger removal material amount is desired during polishing process, whereby regions having said aggregation trace become substantially same height as said protrusions; and

planarizing by polishing said regions having said aggregation trace and said protrusions together so as to remove a substantially uniform material amount.

2. The method of polishing according to claim 1, wherein said aggregation trace of said particles are formed within said depression of said work surface by determining a path on which laser light flux moves in accordance with the shape of the protrusions and depressions of said work surface to perform scanning.

3. The method of polishing according to claim 1, wherein said aggregation trace of said particles are formed within said depression of said work surface by laser light irradiation through a light shield mask, said light shield mask is arranged in accordance with the shape of said protrusions and depressions of the work surface and placed in a path of laser light.

4. The method of polishing according to any one of claims 1 to 3, wherein said aggregation trace of said particles are formed in a region irradiated with leaser light of said work surface by trapping and collecting said particles of said slurry through a laser trapping phenomenon with light radiation pressure, said formed aggregation trace of said particles are broken by polishing and said particles are used as polishing particles, so that said particles are concentrated near said region irradiated with laser light, whereby an amount of removal material by polishing near said aggregation trace of said particles is increased.

5. The method of polishing according to any one of claims 1 to 4 wherein: the shape of a surface of a region to be polished on said work surface is measured and stored before or during polishing; a laser light irradiation region, an irradiation condition, and a polishing condition are calculated from the measurement data; and laser light irradiation is performed in accordance with the calculation results.

6. A polishing apparatus for polishing a work surface having protrusions and depressions thereon with slurry containing particles, comprising:

a laser optical system for projecting and irradiating laser light; and

a polishing tool system for performing press in an axis direction and rotational movement,

wherein said irradiation of laser light and polishing are performed on said depressions adjacent to said protrusions on said work surface simultaneously and sequentially by relative movement of said laser optical system and said

polishing tool system to said work surface.

7. The polishing apparatus according to claim 6, wherein: the shape of said surface of said region to be polished on said work surface is measured by shape measuring means before or during polishing; the measured shape is stored by storing means; a laser light irradiation region, an irradiation condition, and a polishing condition are calculated from the stored measurement data; and based on the calculation result, said laser optical system irradiates laser to said depressions adjacent to said protrusions or said polishing tool system polishes said protrusions and said depressions.

8. The polishing apparatus according to claim 6, wherein a light shield mask is placed in an optical path of said laser optical system in order to irradiate laser light selectively in accordance with the shape of said protrusions and said depressions of said work surface.